

Work Order ID 146729

Friday, May 20, 2016 3:29:29 PM

146729

Page 1

Item ID: 647.1702

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Skid Deflector Assembly

Start Date: 5/24/2016 Start Qty: 1.00

1

Cust Item ID:

Required Date: 6/1/2016 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan: EmDate: 16/05/24

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

647.1700

E

110

Pick Kit

0.00

110

Packaging

Memo

0.00

Packaging

NOV 09 2016

DAS
6
9-89

120

0.00

120

Small Fab

Memo

0.49

Small Fab

1- Assemble item 4,6,7 and 8 as per dwg.

2- Clamp item 1 and 2 to item 3. Transfer drill holes as per dwg see note 6. Use clecos.

3- Disassemble parts

4- Deburr

5- Touch up expose aluminum with alodine

6- Re-assemble as per dwg

IX

DAS
36
9-89

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER :							

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Page 2

Accept

N900040100

Setup **Start** ***NS1***

Stop *NS2*

Item Name: Skid Deflector Assembly

Start Date: 5/24/2016 **Start Qty:** 1.00 ***1***

Cust Item ID:

Required Date: 6/1/2016 **Req'd Qty:** 1.00 ***1***

Customer:

Reference:

Run Start *NR1*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Stop ***NR2***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

[illegible]

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
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Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER :			
Misidentified ☐	Past Due ☐																																																																

Work Order ID 146729

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146729

Page 3

Item ID: 647.1702 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Skid Deflector Assembly
Start Date: 5/24/2016 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 6/1/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190 *190* Small Fab Small Fab	Memo ASSEMBLE AS PER DWG N/A	0.00 0.00							
200 *200* QC Quality Control	Memo QC5- Inspect part completeness to step on W/O N/A	0.00 0.02							
210 *210* Packaging Packaging	Identify as per dwg & Stock Location: <u>CCT633</u> Memo ***IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV***	0.00 0.01							

1
DEC 05 2016
DAS 6 9-88

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Work Order ID 146729

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Item ID: 647.1702 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Skid Deflector Assembly
Start Date: 5/24/2016 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 6/1/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
220	QC21 - Final Inspection - Work Order Release	0.00							
220									
QC	Memo	0.10							
Quality Control									

DAS
21
9-88
DEC 06 2016

DAS
21
9-88
DEC 06 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong		
Design ☐	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions		
Doc/Data ☐	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance		
Equip/Tooling ☐	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect		
Handling/Pre ☐	☐ Training	☐ Crimp/Kink/Ripple/Wave	☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing		
Material ☐	☐ Use for Testing	☐ Cuffs	☐ Contamination	☐ Out of Sequence	☐ Part Moved		
Internal Transport ☐	☐ Poor Information	☐ Crushing	☐ Countersink	☐ Off-set	☐ Drawing		
Tribal Knowledge ☐	☐ Rushing	☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Finish		
LOA ☐	☐ Product Improvement	☐ Wave/Twist in Tube	☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread		
Substation ☐	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence		
Past Expiry Date ☐	☐ Manufacturing Process	OTHER :					
Misidentified ☐	☐ Past Due						

Picklist Print

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Page 1

Work Order ID: 146729

146729

Parent Item: 647.1702

647 1702

Parent Item Name: Skid Deflector Assembly

Start Date: 5/24/2016

Required Date: 6/1/2016

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A NEW ISSUE 13.07.17 JLM VERIFIED BY:DD IPP
REV:B 14.09.26 AS PER DWG C1 DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MS21042-3	<u>MS21042L3</u>	Purchased	No				Each	18.0000		1			
MS21042-3									**	135530		NOV 09 2016	DAS 6 9-89
Nut / use MS21042L3													
				<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>				
				ST304			18						
					M129682		18						
647.1712		Manufactured	No				Each	10.0000		1			
647 1712									**			NOV 09 2016	DAS 6 9-89
Gusset													
				<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>				
				CCK036			10						
					138336		10			1			
647.1713		Manufactured	No				Each	37.0000		1			
647 1713									**			NOV 09 2016	DAS 6 9-89
Spacer													
				<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>				
				CCK108			37			1			
					104845		36						
					99057		1						
601.1915	<u>CR3213-4-4</u>	Purchased	No				Each	0.0000		22			
601 1915									**	135056 x 8		NOV 09 2016	DAS 6 9-89
Rivet (CR3213-4-4)													
										137825 x 1			

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER :							

Picklist Print

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Page 2

Work Order ID: 146729

146729

Parent Item: 647.1702

647 1702

Parent Item Name: Skid Deflector Assembly

Start Date: 5/24/2016

Required Date: 6/1/2016

Start Qty: 1.00

Required Qty: 1.00

601.1607 NAS1149F0332P Purchased No

Each 19.0000

2

601 1607

Washer (NAS1149F0332P)

**

~~10/32~~ 13552/4

DAS

6

9-89

NOV 09 2016

Location

Loc Qty

Loc Code

ST522

19

m123185

19

Each

0.0000

1

601.1622 MS27039-1-14 Purchased No

601 1622

Screw (MS27039-1-14)

**

124326

DAS

6

9-89

NOV 09 2016

647.1714 Manufactured No

Each

10.0000

1

647 1714

Plate

**

NOV 09 2016

DAS

6

9-89

Location

Loc Qty

Loc Code

CCK044

10

126237

4

135635

6

Each

9.0000

1

647.1715 Manufactured No

647 1715

Plate

**

153/89

DAS

6

9-89

NOV 28 2016

Location

Loc Qty

Loc Code

CCK044

9

126238

4

135636

5

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Shop Packet Print

Page 2

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

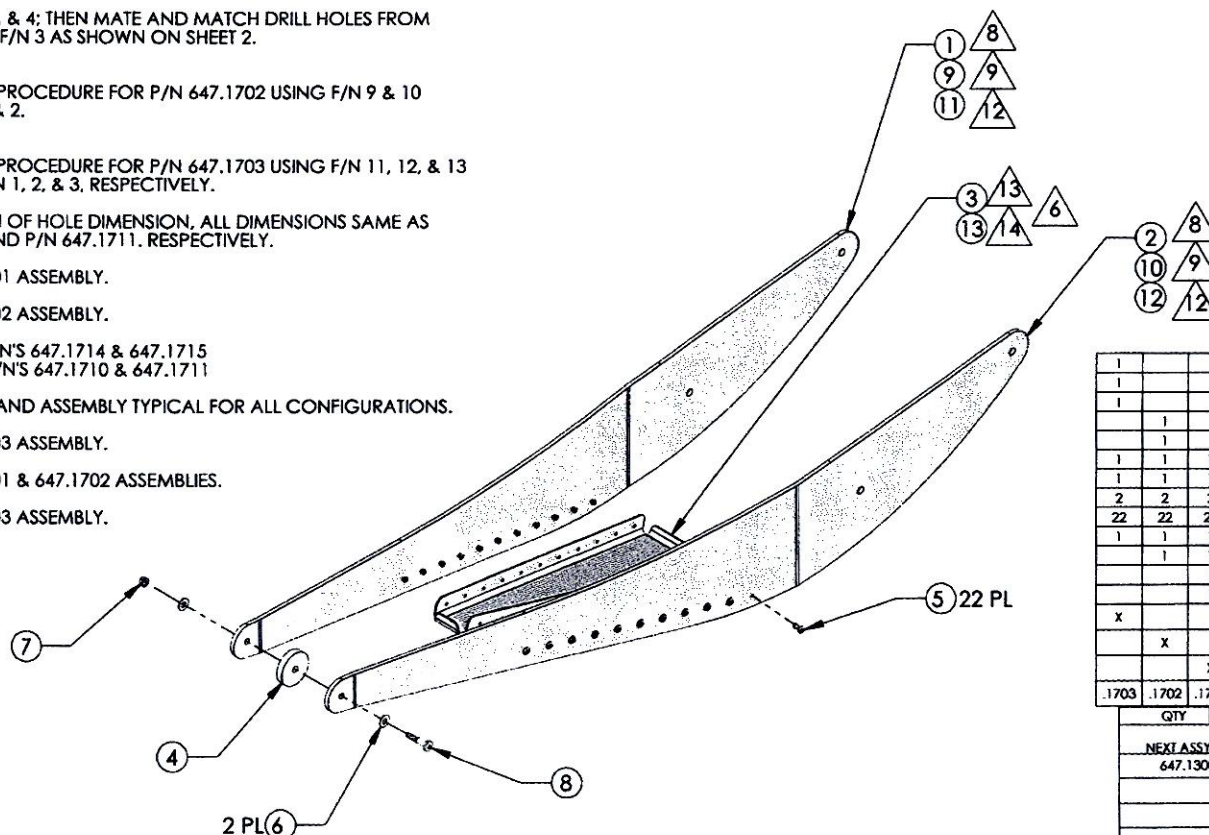
Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval 	
Description Work Order Deviation		Disposition			
				Completed By _____	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

NOTES:

- 1 MATERIAL: 7075-T6 ALUMINUM PER AMS-QQ-A-250/12.
- 2 MATERIAL: 6061-T6 ALUMINUM BAR IAW AMS-QQ-A-250/11.
- 3 FINISH IAW MPP-172, SECTIONS 2.1, 3.1, & 4.2.
4. DEBURR AND BREAK ALL SHARP EDGES.
5. IDENTIFY IAW MPP-120.
- 6 P/N 647.1701:
CLAMP F/N 1, 2, & 4; THEN MATE AND MATCH DRILL HOLES FROM
F/N 1 & 2 ONTO F/N 3 AS SHOWN ON SHEET 2.

P/N 647.1702:
FOLLOW SAME PROCEDURE FOR P/N 647.1702 USING F/N 9 & 10
IN PLACE OF 1 & 2.

P/N 647.1703:
FOLLOW SAME PROCEDURE FOR P/N 647.1703 USING F/N 11, 12, & 13
IN PLACE OF F/N 1, 2, & 3, RESPECTIVELY.
- 7 WITH EXCEPTION OF HOLE DIMENSION, ALL DIMENSIONS SAME AS
P/N 647.1710 AND P/N 647.1711. RESPECTIVELY.
- 8 FOR P/N 647.1701 ASSEMBLY.
- 9 FOR P/N 647.1702 ASSEMBLY.
- 10 .323" DIA FOR P/N'S 647.1714 & 647.1715
.257" DIA FOR P/N'S 647.1710 & 647.1711
- 11 RIVET SPACING AND ASSEMBLY TYPICAL FOR ALL CONFIGURATIONS.
- 12 FOR P/N 647.1703 ASSEMBLY.
- 13 FOR P/N 647.1701 & 647.1702 ASSEMBLIES.
- 14 FOR P/N 647.1703 ASSEMBLY.



REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	LAST PROTOTYPE REVISION: PR2		N/C
N/C	INITIAL RELEASE	08/05/09	P. BRAVO
A	INCORPORATED ECNS 02937 & 03921	06/02/13	P. BRAVO
B	INCORPORATED ECH 03970	07/03/13	P. BRAVO
C	INCORPORATED ECH 04088	08/14/13	P. BRAVO
D	INCORPORATED ECNS 04679, 04702 & 04964	05/29/15	P. BRAVO
F	INCORPORATED ECNS 05357	03/21/16	P. BRAVO

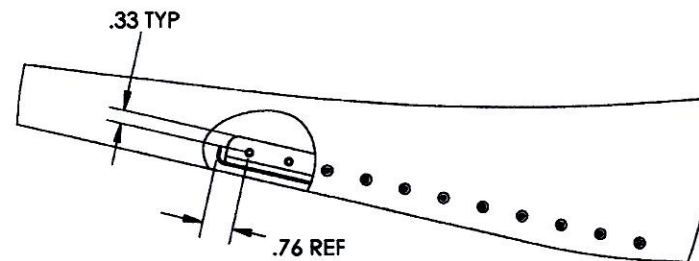
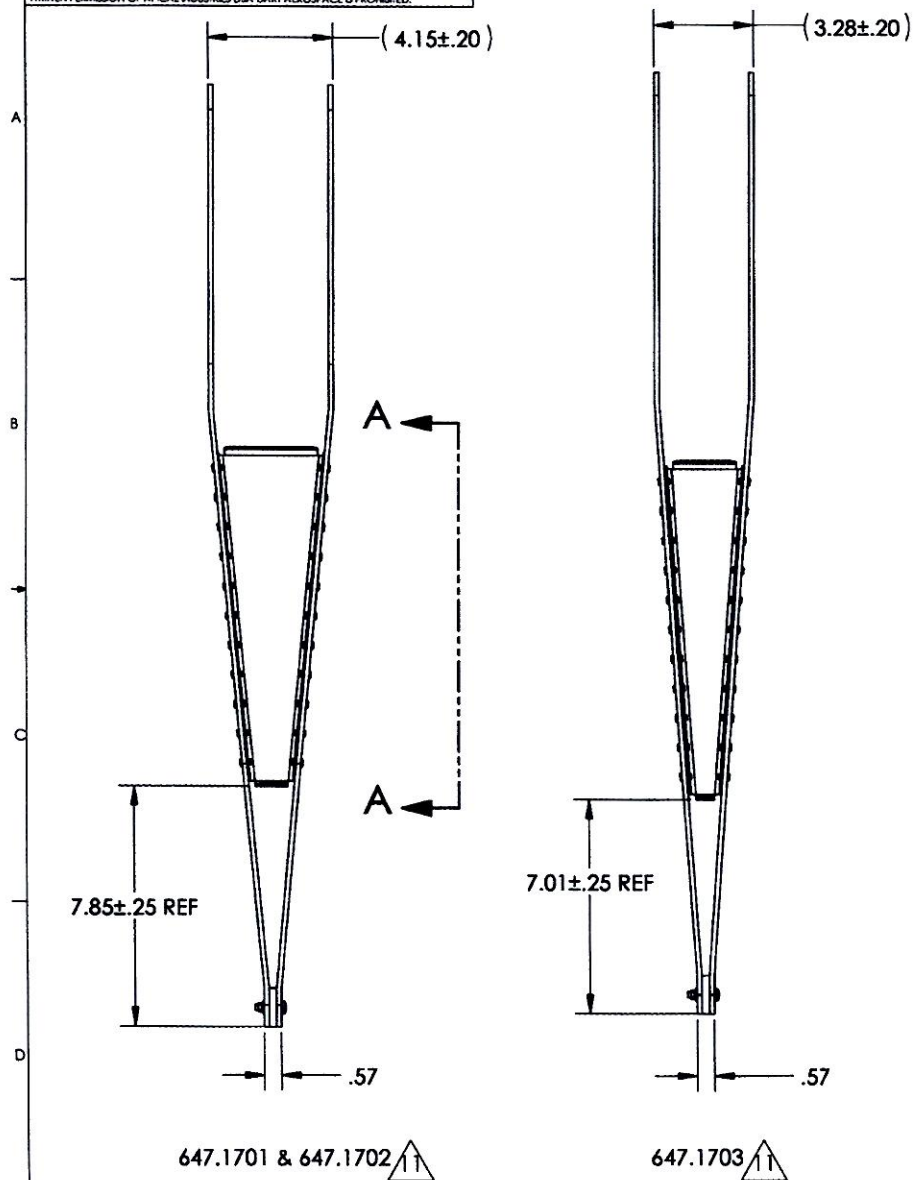
1			13	647.1718	GUSSET		△	△
1			12	647.1717	PLATE		△	△
1			11	647.1716	PLATE		△	△
	1		10	647.1715	PLATE		△	△
	1		9	647.1714	PLATE		△	△
1	1	1	8	601.1622	SCREW	MS27039-1-14		
1	1	1	7	601.2943	LOCKNUT	MS10142-3		
2	2	2	6	601.1607	WASHER	NAS1149F0332P		
22	22	22	5	601.1915	RIVET	CR3213-4-4		
1	1	1	4	647.1713	SPACER		△	△
	1	1	3	647.1712	GUSSET		△	△
		1	2	647.1711	PLATE		△	△
		1	1	647.1710	PLATE		△	△
X				647.1703	SKID DEFLECTOR ASSY			
	X			647.1702	SKID DEFLECTOR ASSY			
		X		647.1701	SKID DEFLECTOR ASSY			
.1703	.1702	.1701	FIND #	PART #	DESCRIPTION	MATL	SPEC.	

QTY		PARTS LIST	
NEXT ASSY (S) 647.1300		ORIGINAL DATE (MM-DD-YY) DESIGNED BY S. HUFF DRAWING APPROVAL (S) (S) (S) (S) CONTRACT NO.	3030 ENTERPRISE CT. SUITE A VISTA, CA 92081 (760)-724-5300 APCAL INDUSTRIES, INC 0500 DART AEROSPACE
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS .012 3 PLACE DECIMALS .005 ANGLES .5°		SKID DEFLECTOR ASSY QTY. NO. 647.1700 SCALE NONE 1 SHEET 1 OF 2	

w/o 146729

dm 16/05/24

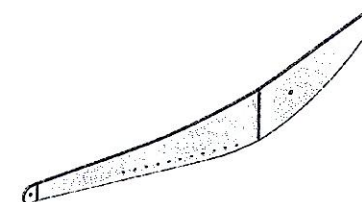
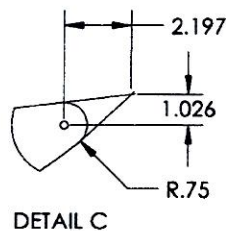
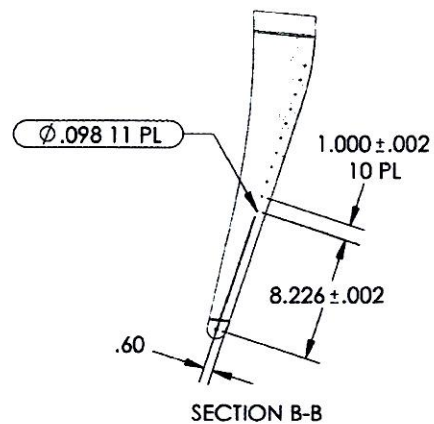
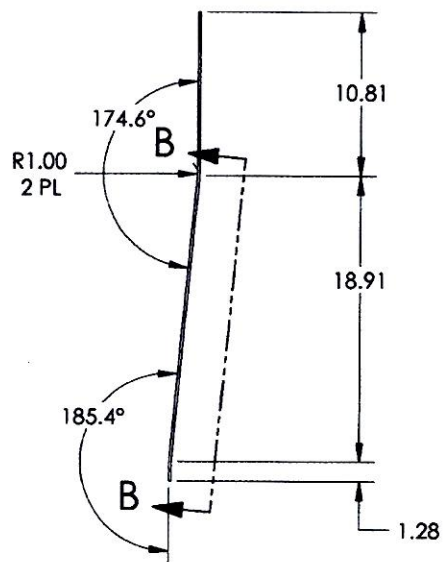
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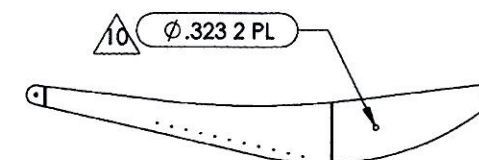
SECTION AA
TYP ALL CONFIGURATIONS

ORIGINAL DATE BUD-DA-1701		08-05-09		 DART AEROSPACE 3030 ENTERPRISE CT., SUITE A VISTA, CA. 92081 (760)-724-5300 APICAL INDUSTRIES, INC. DBA DART AEROSPACE
DRAWN BY S. HART	CHECKED P. BRAVO			
DRAWING APPROVAL P. BRAVO				
CONTRACT NO.				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°				
SEE	CAGE CODE B 07M26	DWG. NO. 647.1700	REV. E	
SCALE NONE		SHEET 2 OF 7		

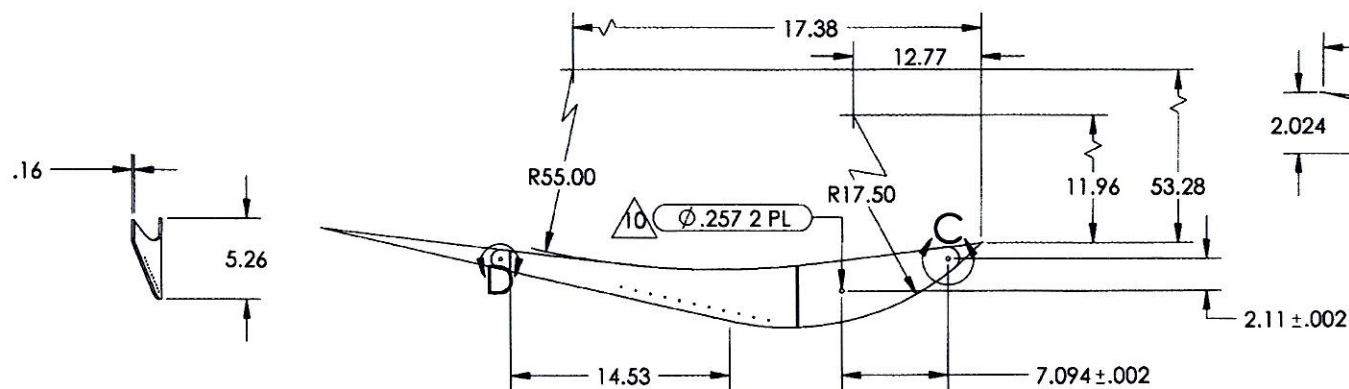
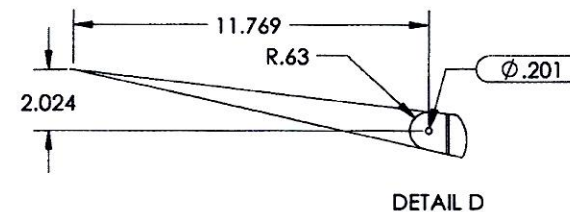
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647.1711 SHOWN
647.1710 OPPOSITE

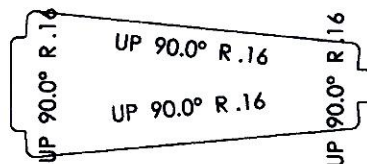
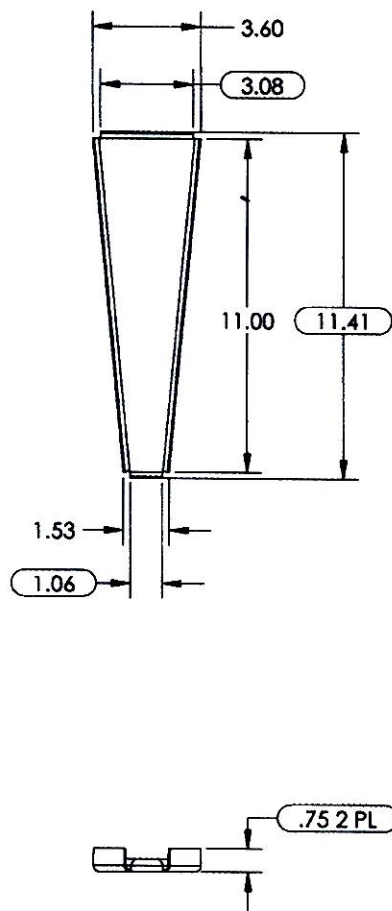


647.1714 SHOWN
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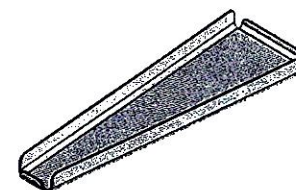
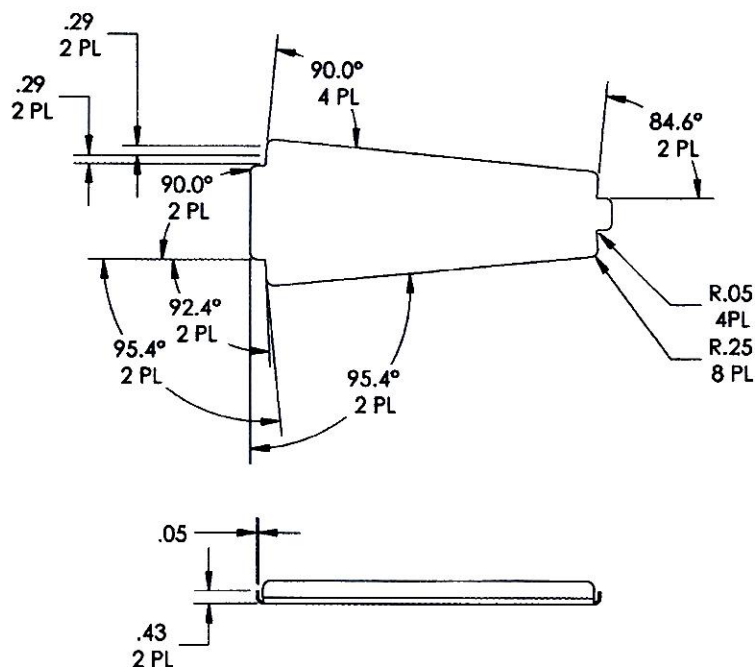


DIPLOMA DATE 08-05-09		3030 ENTERPRISE CT., SUITE A	
DRAWN BY S. HUFF		VISTA, CA. 92081	
CHECKED BY P. BRAYO		(760) 724-5300	
DRAWING APPROVAL:		APICAL INDUSTRIES INC.	
P. BRAYO		VISA DART AEROSPACE	
CONTRACT NO.		SKID DEFLECTOR ASSY	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS $\pm .01$ 3 PLACE DECIMALS $\pm .005$ ANGLES $\pm .5^\circ$			
SIZE	CAGE CODE	DWG. NO.	REV.
B	07M26	647.1700	E
SCALE NONE		SHEET 3 OF 7	

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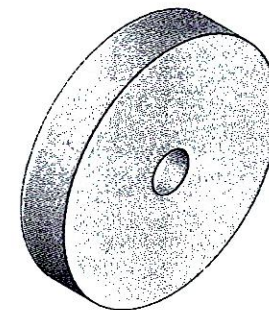
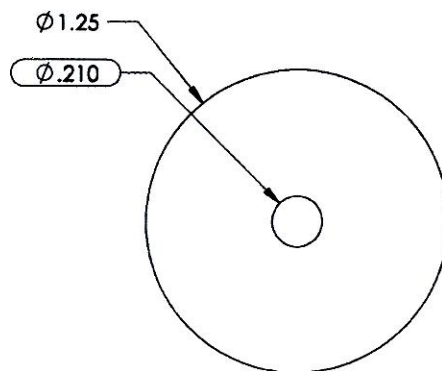
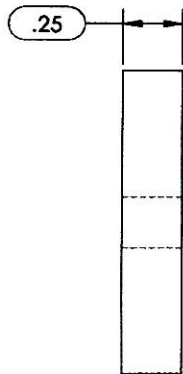
FLAT PATTERN



647.1712

ORIGINAL DATE 8/20/04-177	DESIGNER P. BRAVO	DART AEROSPACE 3030 ENTERPRISE CT., SUITE A VISTA, CA. 92081 (760)-724-5300	
DRAWN BY P. BRAVO	CHECKER P. BRAVO	APICAL INDUSTRIES, INC. DBA DART AEROSPACE	
DRAWING APPROVAL P. BRAVO		SKID DEFLECTOR ASSY	
CONTRACT NO.		REV. CODE B 07M26	REV. E
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ± 5°		DWG. NO. 647.1700	SHEET 4 OF 7
SCALE NONE			

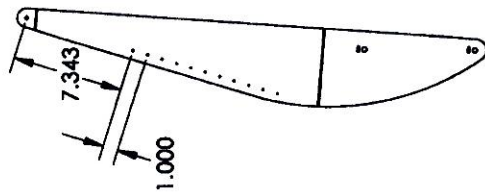
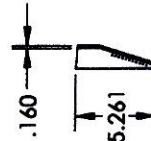
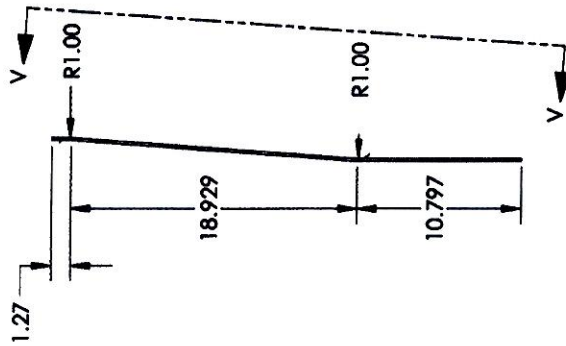
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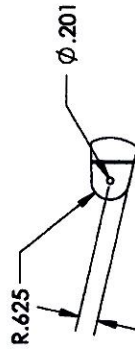
647.1713

ORIGINAL DATE (MM/DD/YY) 08-05-09		DART 3030 ENTERPRISE CT., SUITE A	
DRAWN BY: S. HUFF		AEROSPACE VISTA, CA 92081	
CHECKED BY: P. BRAVO		(760)-724-5300	
DRAWING APPROVAL: P. BRAVO		APICAL INDUSTRIES INC.	
BY: P. BRAVO		DBA DART AEROSPACE	
CONTRACT NO.		SKID DEFLECTOR ASSY	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		SHEET 5 OF 7	REV. E

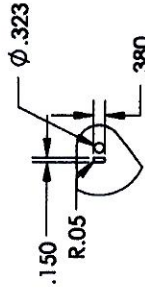
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ARCAL INDUSTRIES DART AEROSPACE. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF ARCAL INDUSTRIES DART AEROSPACE IS PROHIBITED.



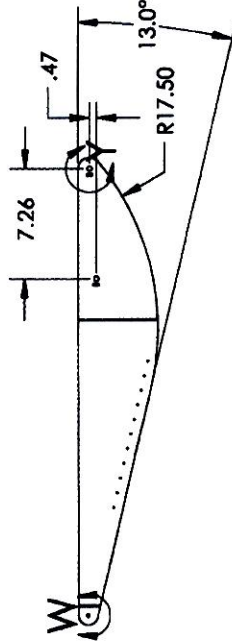
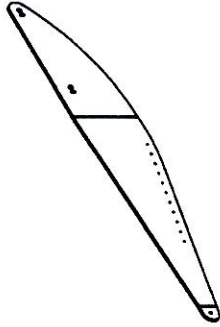
VIEW V-V



DETAIL W

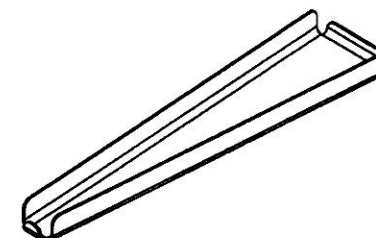
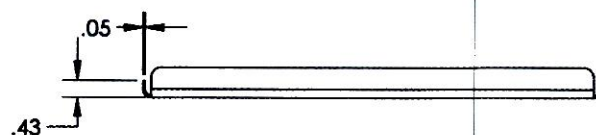
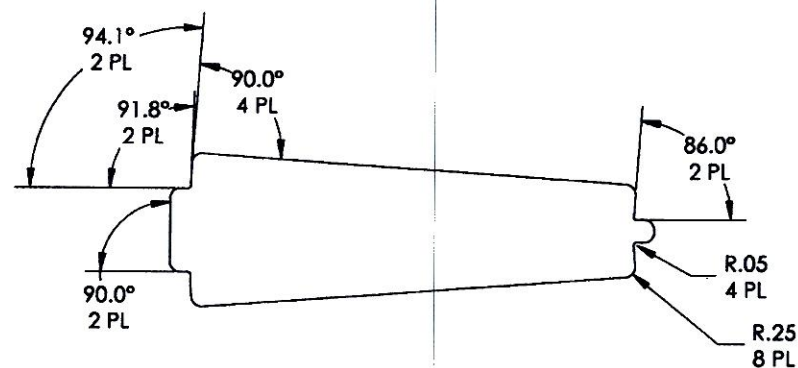
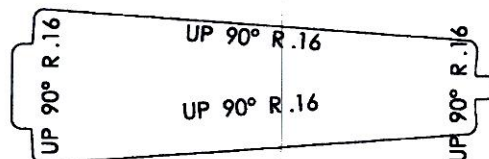
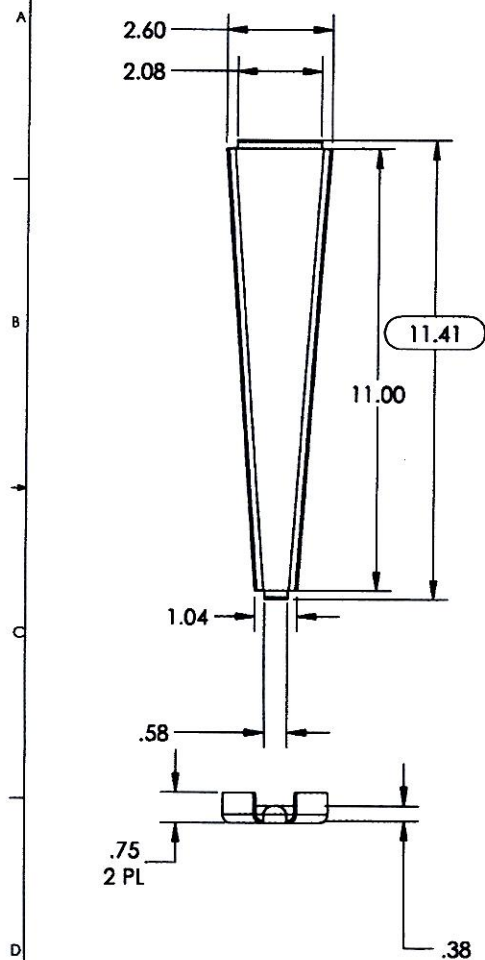


DETAIL Y
TYP 2 PL



ORIGINAL DATE	DESIGNED BY	3000 ENTERPRISE CT.
DRAWN BY	APPROVED BY	ARCA SPACE
1. HRP	1. HRP	VISTA, CA 92081
2. HRP	2. HRP	APCAL INDUSTRIES, INC.
3. HRP	3. HRP	(760) 724-5300
4. HRP	4. HRP	3RD DART AEROSPACE
5. HRP	5. HRP	
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647.1718

ORIGINAL DATE 8/20/02	3030 ENTERPRISE CT SUITE A VISTA, CA, 92081 (760)-724-3300
DRAWN BY J. HURT	DART AEROSPACE APICAL INDUSTRIES, INC. GRAND DART AEROSPACE
CHECKED BY P. HAYDO	SKID DEFLECTOR ASSY
DATE 8/20/02	
CONTRACT NO.	
1/16153 OTHERWISE SPECIFY DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1 FRACTIONAL DECIMALS ±.005 2 PLACE DECIMALS ±.001 3 PLACE DECIMALS ±.001 ANGLES ± .5°	SIZE B CAGE CODE DWG. NO. KEY 07/02/62 647.1700 SCALE NONE SHEET 7 OF 7